

BAV23S

HIGH VOLTAGE GENERAL PURPOSE DIODE

Pd350 mW @ TA = 25 Deg C

Bv250 V (MIN) @ IR = 100 uA

TRR ... 50 nS @ IF=IR = 30 mA IRR = 3.0 mA

ABSOLUTE MAXIMUM RATINGS (NOTE 1)

TEMPERATURES

Storage Temperature 150 Degrees C

Operating Junction Temperature 150 Degrees C

POWER DISSIPATION (NOTES 2 & 3)

Total Device Dissipation at TA = 25 Deg C 350 mW

Derating Factor per Degree C 2.8 mW

VOLTAGES & CURRENTS

V_{RRM} Repetitive Peak Reverse Voltage (Single Device) 250 V

V_{RRM} Repetitive Peak Reverse Voltage (Series Connection) 500 V

V_{RWM} Continuous Peak Reverse Voltage (Single Device) 200 V

V_{RWM} Continuous Peak Reverse Voltage (Series Connection) 400 V

IO Average Rectified Current 200 mA

IF DC Forward Current 400 mA

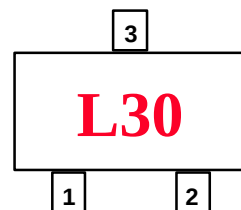
if Recurrent Peak Forward Current 700 mA

if (surge) Peak Forward Surge Current

Pulse Width = 1.0 microsec 9.0 A

Pulse Width = 100 microsec 3.0 A

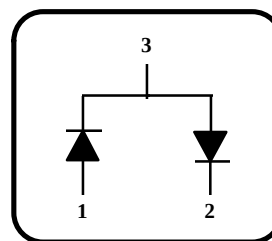
Pulse Width = 10 millisec 1.7 A



PACKAGE

TO-236AB (Low)
(SOT-23)

CONNECTION DIAGRAMS

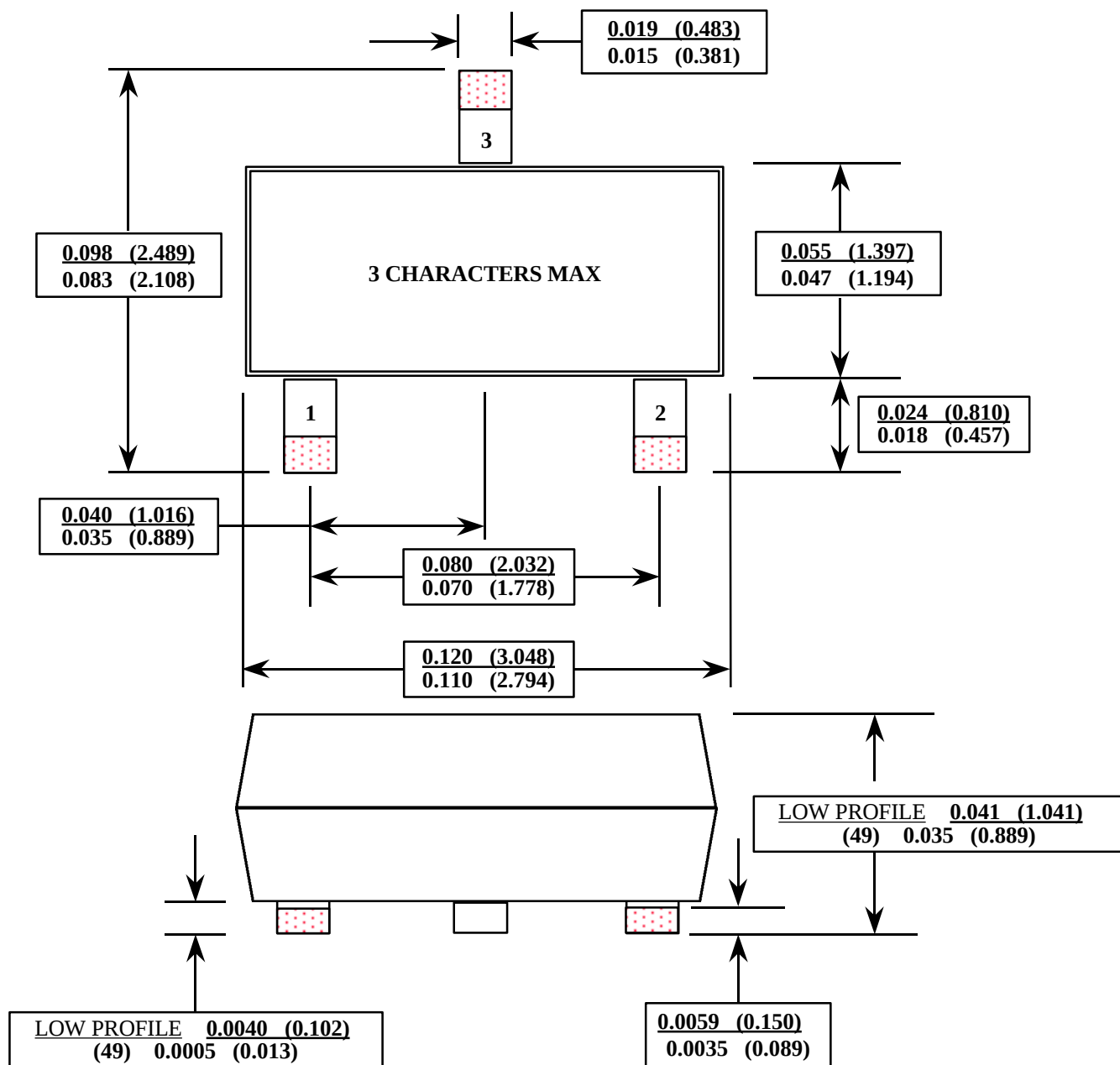


ELECTRICAL CHARACTERISTICS (25 Degrees C Ambient Temperature unless otherwise stated)

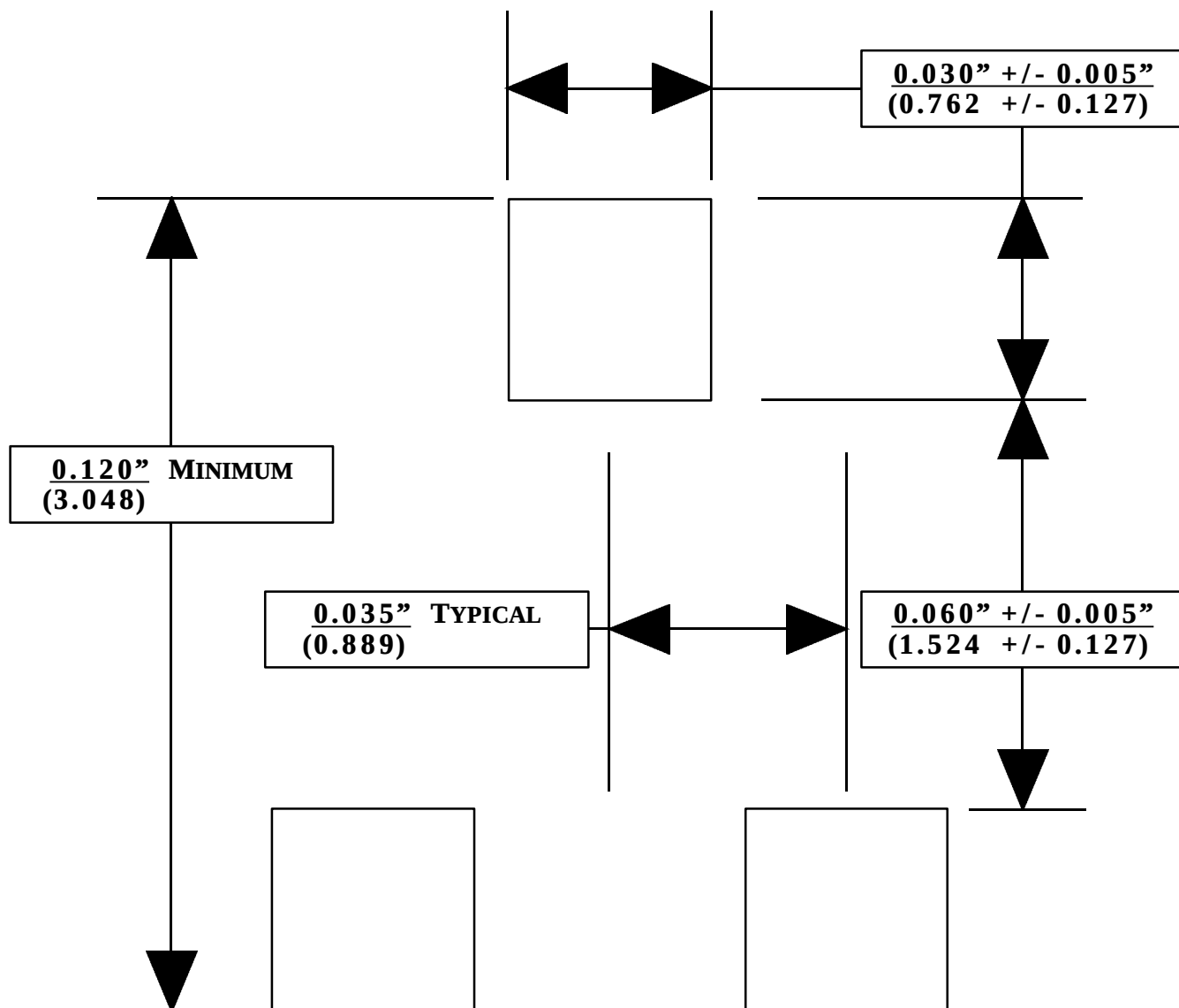
SYM	CHARACTERISTICS	MIN	MAX	UNITS	TEST CONDITIONS
BV	Breakdown Voltage	250		V	IR = 100 uA
IR	Reverse Current (single device)		100	nA	VR = 200 V VR = 200 V TA = +150 Deg C VR = 400 V VR = 400 V TA = +150 Deg C
			100	uA	
	Reverse Current (series connection)		100	nA	
			100	uA	
VF	Forward Voltage (single device)		1.00	V	IF = 100 mA IF = 200 mA IF = 100 mA IF = 200 mA
			1.25	V	
	Forward Voltage (series connection)		2.00	V	
			2.50	V	
TRR	Reverse Recovery Time		50	nS	IF = IR = 30 mA IRR = 3.0 mA RL = 100 ohms

NOTES:

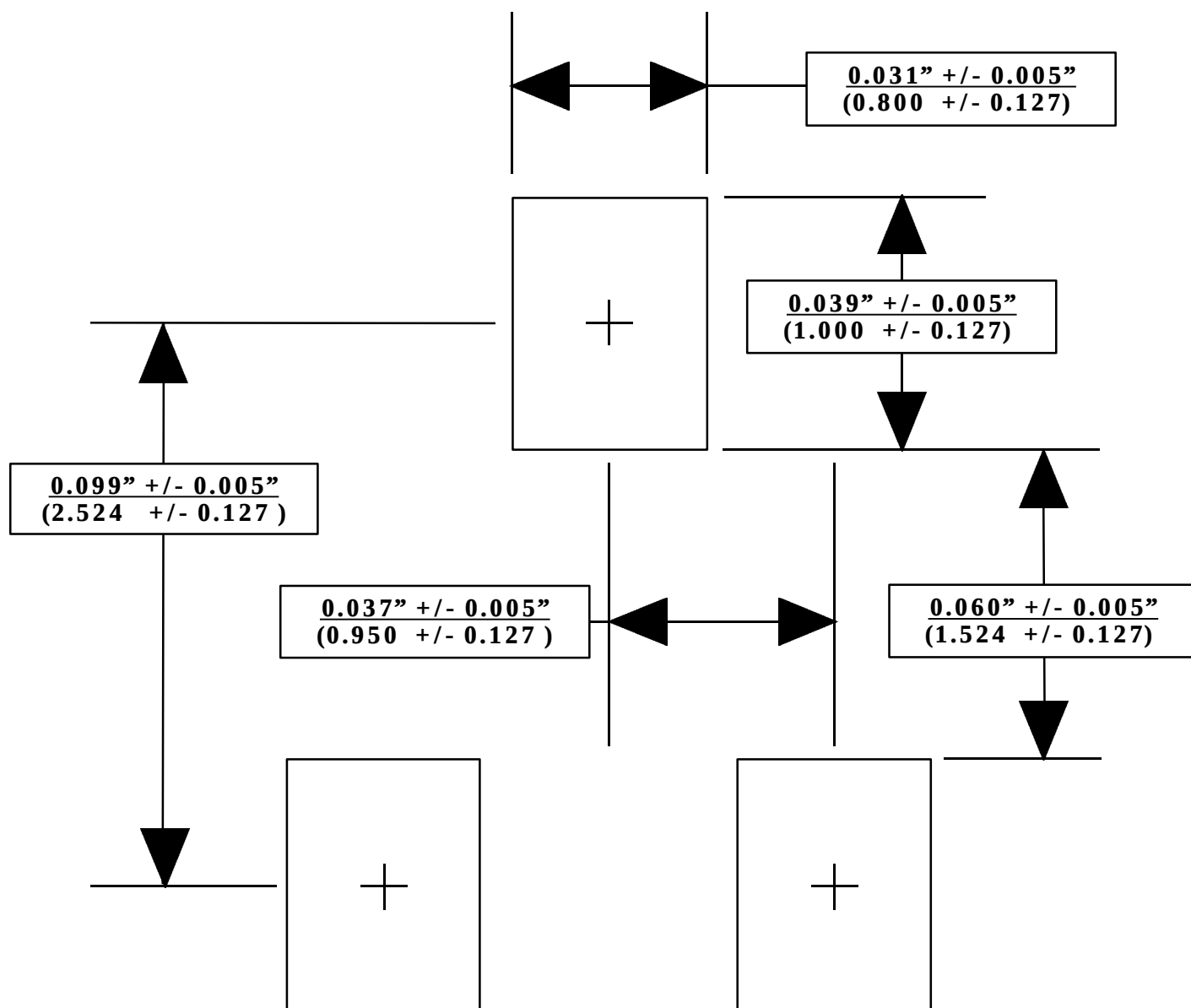
- These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.
- These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.
- These ratings give a maximum junction temperature of 150 degrees C and junction-to-ambient thermal resistance of 357 degrees C per Watt. (Derating factor of 2.8 milliwatts per degree C)



SOT-23
TO-236AB (LOW PROFILE)
22-August-1994



**RECOMMENDED SOLDER PADS
FOR
SOT-23**



**RECOMMENDED SOLDER PADS
FOR
U.S. & European SOT-23
&
Japanese SC-59**

TRADEMARKS

The following are registered and unregistered trademarks Fairchild Semiconductor owns or is authorized to use and is not intended to be an exhaustive list of all such trademarks.

ACE ^x ™	ISOPLANAR™
CoolFET™	MICROWIRE™
CROSSVOLT™	POP™
E ² CMOS™	PowerTrench™
FACT™	QS™
FACT Quiet Series™	Quiet Series™
FAST®	SuperSOT™-3
FAST ^r ™	SuperSOT™-6
GTO™	SuperSOT™-8
HiSeC™	TinyLogic™

DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF FAIRCHILD SEMICONDUCTOR CORPORATION. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, or (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.